

Exhibit 19

creativity, and humor that distinguishes the best Googlers. A fantastic fit for Google.

Notes

Person	Johnie Lee (johnie) - Senior Software Engineer
Requested	Mar 26, 2013
Received	Mar 26, 2013 12:06 PM (PDT)

How long have you known this person?

1-2 years

How well do you know this person's work?

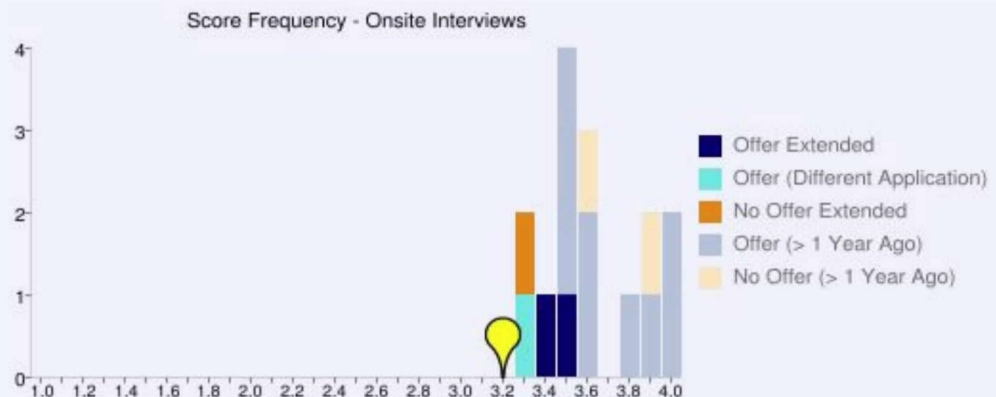
Not very well (know the person in name only, saw him/her very rarely, never observed his/her work)

Notes

Interview Feedback

Technical Director, Office of the CTO, Google Cloud Platform

Eric Brewer
([ebrewer](#)) - Vice President
24 total interviews | 22 onsite interviews
Nov 1, 2016 9:30 AM (PDT) - onsite
Nov 8, 2016 11:31 AM (PST) - feedback received



3.2

We should hire.

She is a bit more junior than the other candidates I have interviewed, which is the only reason for a slightly lower (but still very good) rating. She has experience mostly with one team in one part of the industry and has not done as much on the leadership side because of this.

Conversely, she is more aware of the details and a little closer to the code and the everyday issues.

I think she would be an excellent addition.

Interview questions series

Topics in order:

- 1) basic history in financial sector
- 2) role discussion
- 3) containers vs VMs
- 4) offline computing, time shifting, cost management
- 5) jurisdiction issues, global risk management
- 6) kubernetes, tensorflow, open source, multi-cloud

Rated for: L8+ Hires, Level 8-9, for people manager

On general cognitive ability (optional)

▼ Understands the Problem

OUTSTANDING

Outstanding: Visionary understanding: incorporates long-term, industry-wide strategic factors.

▼ Communicates Clearly

OUTSTANDING

Outstanding: Expresses ideas in a structured fashion AND provides the right amount of detail and examples. Keeps responses concise.

Understands the Problem: broad and deep knowledge of the computing needs of the financial sector. Although she understands the models, she is an enabler and infrastructure provider, rather than a quant. Long history in this space and should be very good and understanding what can move to Cloud easily and how to address a range of anxieties in the sector.

Communicates Clearly: Really quite good here and will be great with customers. Everything was off the cuff and Q&A, but she was very clear and got to the point efficiently and with ease.

On googleyness (optional)

▼ Effectively Challenges Status Quo

SOLID

Solid: Defined lofty, original goals, and expressed willingness to pursue them despite pushback or lack of support.

Challenges the Status Quo: She has already been pushing her company to use the Cloud, well before it was viewed as a reasonable path. She was right and they have started the process. Still a little slow for her, hence exploring with us. She is definitely pushing her teams to modernize.

Interview notes

4) Talk me thru a tough internal project. How did you build the team to address this project? Who were key stakeholders?

Rated for: L8+ Hires, Level 8-9, for people manager

On leadership (optional)

▼ * Customer Engagement: Preparation

SOLID

Solid: Demonstrated an adequate level of knowledge or skills required for the role.

▼ * Customer Engagement: Communication

OUTSTANDING

Outstanding: Exceeded expectations of knowledge or skills required for the role.

▼ * Customer Engagement: Credibility

SOLID

Solid: Demonstrated an adequate level of knowledge or skills required for the role.

▼ * Customer Engagement: Deliver Results

SOLID

Solid: Demonstrated an adequate level of knowledge or skills required for the role.

** denotes user-defined*

Customer Engagement: Preparation - Ulku seemed well prepared for the interview. She was able to compare GCP to AWS and Azure in a credible way. She was also able to talk about how Google strengths (e.g. data and analytics & machine learning) and weakness (e.g. enterprise services and relative market size) impacted our perceptions in the banking space.

Customer Engagement: Communication - Ulku was one of the stronger communicators I've interviewed so far for the OCTO role (nearing 10). She was easily able to go deep on areas I pushed on, but was also able to stay 20K feet where it mattered.

Customer Engagement: Credibility - Ulki is very credible in the FinServe space, but also believe she can present credibility in the general enterprise space.

Customer Engagement: Deliver Results - We dove deeply into her experience revamping the risk management space at JPMC. I liked her views on change management, stakeholder management, and team building.

Interview notes

1) Not looking anywhere, but approached by Google.

What brought her to financial services was that they were at the forefront of innovation in the 90's and after. But

Within JPMC, she is pushing them to move to the Cloud. A lot of them valid (compliance, security, vendor lock-in).

Is vendor lock-in important in the cloud? Yes and no. There is a concern about lock-in. you have to pick your partners carefully. multi-vendor is important. primary cloud provider will drive the strategy.

Do you think it'll be like intel/amd or like the storage market? Doesn't think it'll be 95/5, but maybe 70/30.

AWS was signed 1st. Azure is clearly in the game. (what about google?) vendor engagement is critical. white glove service is critical. we've heard a lot about security, but doesn't think that will be a differentiator. google is attractive due to access to innovation. tensor flow, data flow, and other products. our engineers are the 'best in the world' do you want to work with them. looking for a partner to help them innovate.

Runs the credit risk system. This covers the investment bank and commercial/wholesale bank. Not the consumer side. Pulls trades and positions into a central place.

Talk about the technology stack to support this:

Oracle Exadata is key. Couldn't do oracle rack, because they had outgrown it. Everything is all on prem. Went exadata for backward comparabilities.

Did look at other options briefly when the moved to exadata, but transition cost was too high. Capacity limits were pushing them.

Are doing some hadoop infrastructure to support some back end processing. Land transaction content. Market data, reference data, and trade data is used for raw content. Also using hadoop and hbase. Built a greenfield system for the real-time status of credit exposure (e.g. hasn't closed on a trade yet).

Questions on ML: where is it for JPMC? Ton of excitement. What's really being done? Very minimalistic. Doing some in fraud detection. Doing some in legal docs - NPL. Running POCs.

All the risk management is based on monte carlo simulations. where can you use ML to do more analysis? Kensho - doing some interesting stuff on market predictions.

Give example of a tough project:

Came to JPMC in 2012. Lots of stress on risk management side, but systems were a hodgepodge. No big investment since late 90's. After enron, they did a big push for risk management systems but then let that atrophied over a decade. Didn't have luxury of greenfield.

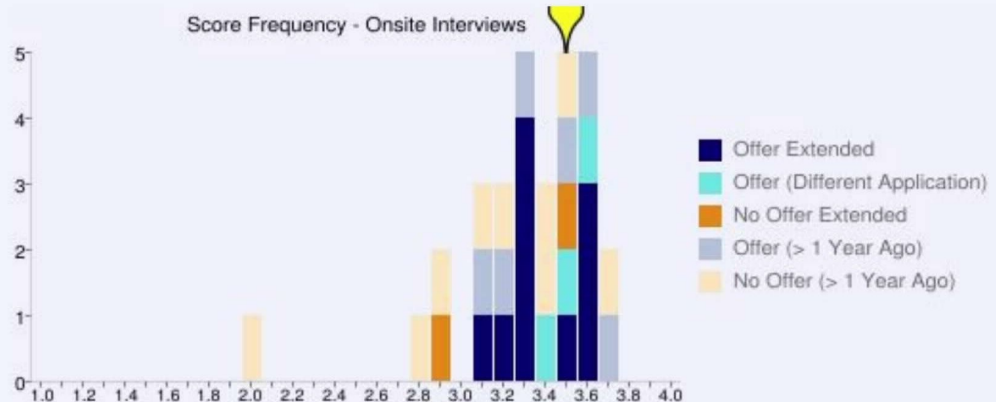
Did assessment over 1st few months. All the smart guys had left. Weak team. Started at 250 people in 2012. Have 400 people now. This grew thru taking on more responsibility.

Figure out end-state. Figure out what team they needed. Figure out dates and constraints. Figure out what where the biggest problems to tackle. Figure out budget and cost. Had to be nimble.

Integrated Credit Risk Desktop - for the user, would create a unified environment for credit functions.

Built a team of A-players. 10 people initially. Some were found in the org. 1/3 new, 1/3 people they had been there, 1/3 internal recruiting. All spread around.

Brian Stevens
 (stevensb) - Vice
 President
 76 total interviews |
 53 onsite interviews
 Oct 31, 2016 10:00
 AM (PDT) - onsite
 Nov 2, 2016 1:52
 PM (PDT) -
 feedback received



3.5

Hire. Likely not one to drive CxO relationships but she can certainly pair off as needed. Strong blend of LOB + IT makes her a great add.

Interview questions asked

Per notes.

Rated for: L8+ Hires, Level 8-9, for people manager

Interview notes

Very personable. Seems a strong communicator which will be important internally and externally.

In a LOB/application space at JP and was able to clearly enumerate all of the reasons why they should be more aggressive on cloud.

She was able to articulate the challenges of legacy firms in moving faster - not just the technical reasons but FUD, ownership, etc.

Well-versed in IT as she used to run some portion of it at UBS.

Seems bright and able to get her points across easily.

personnel standpoint as well as nuts and bolts technical challenges. She explained it to me in terms I understood, and did so without ever letting the conversation drop (or needing me to probe).

On googleyness (optional)

▼ Thrives in Ambiguity

SOLID

Solid: Was able to change course as needed, with little-to-no guidance. Made progress in a highly ambiguous situation.

During our interview, I bounced around a bit, and the "Why is AWS the market leader" question is intentionally ambiguous and open ended. We had a fluid, "what about X" conversation, and she handled it very well.

Interview notes

1. Why do you think AWS has such a large share of the market? Can Google catch up? How?

Ulku immediately pointed to the big head start that AWS has, but then said something no other candidate did: AWS really gets how to engage with enterprise customers. They've provided her firm with direct access to PMs, Solutions Architects, Engineers, etc. and have done so all while presenting them with lots of options to get started "You could certainly just run Cloudera on EC2, or you could try EMR if you'd like". As an aside, she mentioned that's why people even consider Microsoft to be number two: they really know how to engage with enterprise customers, they pick up the phone immediately, give minute-by-minute updates, and so on.

But where Google has historically shined is technical excellence. She believes that as Diane's changes make their way through Google's sales, marketing, and Office of the CTO, that customers will warm up to us. And that, quite honestly, the challenge for all buyers is that they don't want to actually talk to a sales person, they want to talk to the people who can tell them if this is a good fit for their business. More than anything, she said, AWS has examples and offerings that help people not only change their infrastructure, but change the way they operate their business.

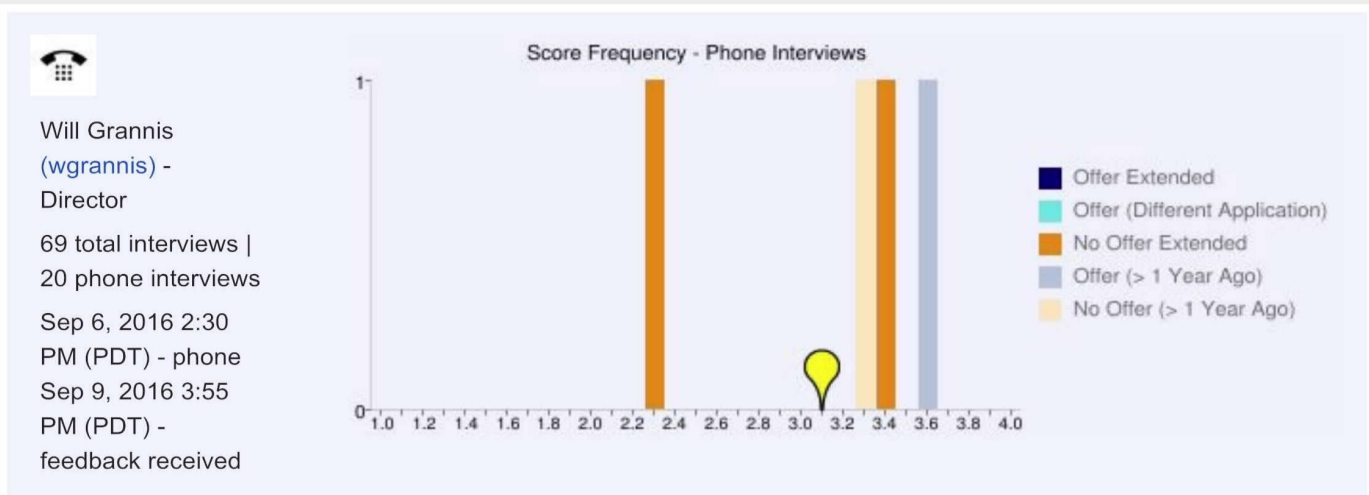
With everyone hopping on both Containers and ML as the newest hypes, she feels Google is particularly strongly positioned. Every CxO she knows is talking about what they need to do for their container strategy, so that they're not locked in. With Google, she recognizes that we're doing "open" on purpose. With ML, she points to our big head start, and massive strength in TensorFlow.

2. Beyond saving money, can you give me an example of something your firm might do with cloud that you couldn't do otherwise?

Ulku had a great example of credit applications. Today, these are often handled by people in India reading long, free-form text documents and searching for key variables (like months of late payments, interest rates, etc.) and then entering them into a structured system. She is hoping to do a PoC in SparkML with NLP to say "Just automatically find all these things we look for today *and* more". Instead of having an army of hundreds of people scanning the documents, she'd love to do it quickly, more correctly (the error rate is apparently pretty high) and with higher quality signals than they can provide today.

Very high energy and charismatic. She's had a number of efforts merging platforms due to mergers or consolidating efforts. Seems strong in guiding decisions at this level. Solid understanding or subset of investment banking workloads (options pricing) and their infra dependencies. I probed at how well she knows cloud infra and she claims a solid understanding across services.

Seems a bit of a 'tweener, where it's unclear whether she is senior enough to be a trusted advisor to the CxO and expert enough to counsel those that need to make architecture choices.



3.1

Strong financial services background, seasoned IT leader. Moving applications to the cloud right now and so has very relevant and timely experience within a finsrv enterprise adopting public cloud. Recommend next level screening.

Interview questions asked

Short discussion on the CTO Office and its goals/objectives

1. Why are you considering changing career direction now?
2. How would i brand you with customers? Where are you the deepest technology wise?
3. Where would you need my help to be successful in the role?
4. What do you know about Google Cloud Platform?

Rated for: L8+ Hires, Level 8-9, for people manager

Interview notes